Remarks

The Office Action mailed July 1, 2004, has been carefully reviewed and the following remarks have been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 1-20 are rejected. Claims 1, 5, 7, 8, 14, and 15 have been amended. No new matter has been added.

In accordance with 37 C.F.R. 1.136(a), a two-month extension of time is submitted herewith to extend the due date of the response to the Office Action dated July 1, 2004 for the above-identified patent application from October 1, 2004 through and including December 1, 2004. In accordance with 37 C.F.R. 1.17(a)(2), authorization to charge a deposit account in the amount of $430.00 to cover this extension of time request also is submitted herewith.

The objection to the drawings is respectfully traversed. Applicant respectfully traverses the statement on page 2 of the Office Action that the automatic selection of at least one tool based on the planning program must be shown. 37 C.F.R. § 1.58(a) permits tables, chemical and mathematical formulas in the specification in lieu of formal drawings (MPEP 608.01). Applicant respectfully submits that a fabrication tooling listed in paragraph 32 of the specification shows an exemplary embodiment of an automatic selection of at least one tool based on the planning program. Specifically, for example, paragraph 32 of the specification includes, "PART THREE OPERATION 020 FLAME CUT INTERIOR HOLE TO DRAWING PART THREE OPERATION 020 TOOL NUMBER MS XXX 2.00 INCH MIL.L", which is an exemplary embodiment of an automatic selection of at least one tool based on the planning program.

Applicant respectfully traverses the statement on page 2 of the Office Action that the planning program including a plurality of operations to fabricate the object must be shown. Applicants respectfully submit that Figure 2 includes an exemplary embodiment of a planning program including a plurality of operations to fabricate the object.

Applicant respectfully traverses the statement on page 2 of the Office Action that the program configured to recognize a subassembly or part not selected by an

operator must be shown. Applicants respectfully submit that a block including "planning will only be shown for all desired parts or subassemblies", shown in Figure 2, is an exemplary embodiment of a program configured to recognize a subassembly or part not selected by an operator.

Applicant respectfully traverses the statement on page 2 of the Office Action that the automatic updating of a list of operations to fabricate an object must be shown. Applicants respectfully submit that the block including "planning will only be shown for all desired parts or subassemblies", shown in Figure 2, is an exemplary embodiment of the automatic updating of a list of operations to fabricate an object.

Applicant respectfully traverses the statement on page 2 of the Office Action that the list of operations must be shown. Applicants respectfully submit that Figure 2 includes an exemplary embodiment of a list of operations.

Applicant respectfully traverses the statement on page 2 of the Office Action that automatically modifying a tooling list must be shown. Applicants respectfully submit that the block including "tooling will only be shown for all desired parts or subassemblies", shown in Figure 7, is an exemplary embodiment of automatically modifying a tooling list.

Applicant respectfully traverses the statement on page 2 of the Office Action that a tooling list must be shown. 37 C.F.R. § 1.58(a) permits tables, chemical and mathematical formulas in the specification in lieu of formal drawings. Applicant respectfully submits that a fabrication tooling listed in paragraph 32 of the specification shows an exemplary embodiment of a tooling list. Specifically, for example, paragraph 32 of the specification includes, "PART THREE OPERATION 020 TOOL NUMBER MS XXX 2.00 INCH MIL.L", which is an exemplary embodiment of a tooling list.

Applicant respectfully traverses the statement on page 2 of the Office Action that a tool, a distinct part and subassembly must be shown. Applicant has amended the figures to include a tool. Moreover, Applicant respectfully submits that Figure 3 is a perspective view of a part 20 and Figure 5 is a perspective view of a subassembly 30.

Applicant respectfully traverses the statement on page 2 of the Office Action that a tooling list included in a planning program must be shown. 37 C.F.R. § 1.58(a) permits tables, chemical and mathematical formulas in the specification in lieu of formal drawings. Applicant respectfully submits that a fabrication tooling listed in paragraph 32 of the specification shows an exemplary embodiment of a tooling list included in a planning program. Specifically, for example, paragraph 32 of the specification includes, "PART THREE OPERATION 020 TOOL NUMBER MS XXX 2.00 INCH MIL.L", which is an exemplary embodiment of a tooling list included in a planning program.

Applicant respectfully traverses the statement on page 2 of the Office Action that a planning program must be shown. Applicants respectfully submit that Figure 2 includes an exemplary embodiment of a planning program.

Applicant respectfully traverses the statement on page 2 of the Office Action that an apparatus, a manufacturing tool, a computer, and a computer coupled to a manufacturing tool must be shown. Applicant has amended the figures to include an apparatus, a manufacturing tool, a computer, and a computer coupled to a manufacturing tool.

For at least the reasons set forth above, Applicant respectfully requests that the objection to the drawings be withdrawn.

The objection to the specification is respectfully traversed. Applicant has amended paragraphs 12 and 22. Applicant respectfully traverses a statement on page 3 of the Office Action that page 6, paragraph 24 of the specification would be more clear if Applicant gave a brief explanation of exactly how the program is modified to skip steps. Applicant respectfully submits that paragraph 23 of the specification describes exactly how a program illustrated in paragraph 22 is modified to skip steps. Specifically, for instance, the program illustrated in paragraph 23 of the specification includes "PART THREE OPERATION 020 NOT REQUIRED", which is a modification of a program including "PART THREE OPERATION 020 FLAME CUT INTERIOR HOLE TO DRAWING" illustrated in paragraph 22 of the specification. As another instance, the program illustrated in paragraph 23 of the specification does not include "PART FOUR OPERATION 010 FLAME CUT TO

DRAWING PART FOUR OPERATION 020 PREP FOR WELDING", which is included in the program illustrated in paragraph 22.

Moreover, Applicant respectfully traverses a statement on page 3 of the Office Action that page 9, paragraph 34 presents a similar situation as that noted in reference to page 6, paragraph 24. Applicant respectfully submits that paragraph 33 of the specification describes exactly how a program illustrated in paragraph 32 of the specification is modified to skip steps. Specifically, for instance, the program illustrated in paragraph 33 of the specification includes "PART THREE OPERATION 020 NOT REQUIRED", which is a modification of a program including "PART THREE OPERATION 020 FLAME CUT INTERIOR HOLE TO DRAWING PART THREE OPERATION 020 TOOL NUMBER MS XXX 2.00 INCH MIL.L" illustrated in paragraph 32 of the specification. As another instance, the program illustrated in paragraph 33 of the specification does not include "PART FOUR OPERATION 010 FLAME CUT TO DRAWING PART FOUR OPERATION 020 PREP FOR WELDING", which is included in the program illustrated in paragraph 32.

The rejection of Claims 4, 5, 7, 11, 12, 14, 18, and 19 under 35 U.S.C §112, first paragraph, is respectfully traversed. Applicant respectfully traverses a statement on page 4 of the Office Action that the specification does not reasonably provide enablement for a program configured to recognize a subassembly or part that has not been selected. Applicant respectfully submits that the specification, including the figures, would enable one skilled in the art to make and/or use the invention as described in Claims 4, 5, 7, 11, 12, 14, 18, and 19. Specifically, for example, the specification, paragraph 18 states, "Once the list of steps is generated for the top-level assembly, the planning program is activated such that the selected sub-assemblies or parts are fabricated. If a portion of the top-level assembly is not selected, the portion of the planning program associated with fabricating this subassembly or part is not turned on. In other words, the operator may desire to fabricate a top-level assembly that does not include a specific subassembly or part." Accordingly, the planning program is activated such that the selected sub-assemblies or parts are fabricated and if a portion of the top-level assembly is not selected, the portion of the planning program associated with fabricating this subassembly or part is not turned on.

As another example, the specification, paragraph 28 states, "Once the tooling list is generated for the top-level assembly, the planning program is activated such that the selected sub-assemblies or parts are fabricated. If a portion of the top-level assembly is not selected, the portion of the tooling list associated with fabricating this subassembly or part is not turned on. In other words, the operator may desire to fabricate a top-level assembly that does not include a specific subassembly or part." Accordingly, the planning program is activated such that the selected sub-assemblies or parts are fabricated and if a portion of the top-level assembly is not selected, the portion of the tooling list associated with fabricating this subassembly or part is not turned on.

For at least the reasons set forth above, Applicants respectfully request that the section 112 rejection of Claims 4, 5, 7, 11, 12, 14, 18, and 19 be withdrawn.

The rejection of Claims 1, 3, 8, 10, 15, and 17 under 35 U.S.C. § 102(b) as being anticipated by Funahashi (U.S. Patent No. 5,818,721) is respectfully traversed.

Funahashi describes a profile of the workpiece (1) that is first designed onscreen (column 5, lines 63-67). Then marking symbols/drawings are designed, after which the marking symbols/drawings are synthesized onto the workpiece profile (column 5, lines 63-67). As a result, an operator can confirm a relationship between the workpiece profile and the marking symbols/drawings onscreen, and a CAD device (40) can automatically convert the synthesized design into a work program (column 5, line 67 – column 6, line 3) . The work program is sent to a control section (30) via an input/output means (4H), where the work program is converted to a work program of the control section, which instructs and controls a mechanical section (10) (column 6, lines 4-8).

Claim 1 recites a method for facilitating manufacturing, the method comprising "generating a computer model of an object using a design program; automatically extracting at least a portion of the computer model from the design program and automatically inputting the extracted portion into a planning program configured to generate instructions for fabricating the object; and fabricating the object using the planning program."

Funahashi does not describe or suggest a method for facilitating manufacturing as recited in Claim 1. Specifically, Funahashi does not describe or suggest automatically inputting the extracted portion into a planning program configured to generate instructions for fabricating the object. Rather, Funahashi describes automatically converting, by a CAD device, the synthesized design into a work program and sending the work program to a control section via an input/output means. Accordingly, Funahashi does not describe or suggest automatically inputting as recited in Claim 1. For the reasons set forth above, Claim 1 is submitted to be patentable over Funahashi.

Claim 3 depends from independent Claim 1. When the recitations of Claim 3 are considered in combination with the recitations of Claim 1, Applicant submits that Claim 3 likewise is patentable over Funahashi.

Claim 8 recites apparatus for facilitating manufacturing, the apparatus comprising "at least one manufacturing tool; and a computer coupled to said manufacturing tool and configured to: generate a computer model of an object using a design program; automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object; and fabricate the object using the manufacturing tool based on the planning program."

Funahashi does not describe or suggest apparatus for facilitating manufacturing as recited in Claim 8. Specifically, Funahashi does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Funahashi describes automatically converting, by a CAD device, the synthesized design into a work program and sending the work program to a control section via an input/output means. Accordingly, Funahashi does not describe or suggest a computer configured to automatically input as recited in Claim 8. For the reasons set forth above, Claim 8 is submitted to be patentable over Funahashi.

Claim 10 depends from independent Claim 8. When the recitations of Claim 10 are considered in combination with the recitations of Claim 8, Applicant submits that Claim 10 likewise is patentable over Funahashi.

Claim 15 recites a computer for facilitating manufacturing, the computer configured to "at least one of generate and receive a computer model of an object generated using a design program; and automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object."

Funahashi does not describe or suggest a computer for facilitating manufacturing as recited in Claim 15. Specifically, Funahashi does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Funahashi describes automatically converting, by a CAD device, the synthesized design into a work program and sending the work program to a control section via an input/output means. Accordingly, Funahashi does not describe or suggest a computer configured to automatically input as recited in Claim 15. For the reasons set forth above, Claim 15 is submitted to be patentable over Funahashi.

Claim 17 depends from independent Claim 15. When the recitations of Claim 17 are considered in combination with the recitations of Claim 15, Applicant submits that Claim 17 likewise is patentable over Funahashi.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1, 3, 8, 10, 15, and 17 be withdrawn.

The rejection of Claims1-20 under 35 U.S.C. § 102(e) as being anticipated by Teramoto et al. (U.S. Patent Application Publication No. 2003/01718412) is respectfully traversed.

Teramoto et al. describe a method including inputting shape data of a work piece (paragraph 111). The method includes planning a method of machining the work piece using the shape data of the work piece inputted by an input means (1) and data stored in a database such as a process model, process type, a list of tools of normal use, a list of combination of holders of normal use, and a list of machines of normal use (paragraph 112).

Claim 1 recites a method for facilitating manufacturing, the method comprising "generating a computer model of an object using a design program; automatically extracting at least a portion of the computer model from the design program and automatically inputting the extracted portion into a planning program configured to generate instructions for fabricating the object; and fabricating the object using the planning program."

Teramoto et al. does not describe or suggest a method for facilitating manufacturing as recited in Claim 1. Specifically, Teramoto et al. do not describe or suggest automatically inputting the extracted portion into a planning program configured to generate instructions for fabricating the object. Rather, Teramoto et al. describe inputting, by an input means, shape data of a work piece. Teramoto et al. further describe planning a method of machining the work piece using the shape data of the work piece and data stored in a database such as a process model, process type, a list of tools of normal use, a list of combination of holders of normal use, and a list of machines of normal use. Accordingly, Teramoto et al. does not describe or suggest automatically inputting as recited in Claim 1. For the reasons set forth above, Claim 1 is submitted to be patentable over Teramoto et al.

Claims 2-6 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-6 are considered in combination with the recitations of Claim 1, Applicant submits that Claims 2-6 likewise are patentable over Teramoto et al.

Claim 7 recites a method for facilitating manufacturing, the method comprising "generating a computer model of an object using a design program; automatically inputting at least a portion of the computer model into a planning program configured to generate instructions for fabricating the object, said planning program configured to recognize at least one of a subassembly and a part not selected by an operator; automatically update the planning program; automatically selecting at least one tool based on the planning program; and fabricating the object using the planning program."

Teramoto et al. does not describe or suggest a method for facilitating manufacturing as recited in Claim 7. Specifically, Teramoto et al. do not describe or

suggest automatically inputting at least a portion of the computer model into a planning program configured to generate instructions for fabricating the object. Rather, Teramoto et al. describe inputting, by an input means, shape data of a work piece. Teramoto et al. further describe planning a method of machining the work piece using the shape data of the work piece and data stored in a database such as a process model, process type, a list of tools of normal use, a list of combination of holders of normal use, and a list of machines of normal use. Accordingly, Teramoto et al. does not describe or suggest automatically inputting as recited in Claim 7. For the reasons set forth above, Claim 7 is submitted to be patentable over Teramoto et al.

Claim 8 recites apparatus for facilitating manufacturing, the apparatus comprising "at least one manufacturing tool; and a computer coupled to said manufacturing tool and configured to: generate a computer model of an object using a design program; automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object; and fabricate the object using the manufacturing tool based on the planning program."

Teramoto et al. does not describe or suggest apparatus for facilitating manufacturing as recited in Claim 8. Specifically, Teramoto et al. does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Teramoto et al. describe inputting, by an input means, shape data of a work piece. Teramoto et al. further describe planning a method of machining the work piece using the shape data of the work piece and data stored in a database such as a process model, process type, a list of tools of normal use, a list of combination of holders of normal use, and a list of machines of normal use. Accordingly, Teramoto et al. does not describe or suggest a computer configured to automatically input as recited in Claim 8. For the reasons set forth above, Claim 8 is submitted to be patentable over Teramoto et al.

Claims 9-13 depend, directly or indirectly, from independent Claim 8. When the recitations of Claims 9-13 are considered in combination with the recitations of Claim 8, Applicant submits that Claims 9-13 likewise are patentable over Teramoto et al.

Claim 14 recites apparatus for facilitating manufacturing, the apparatus comprising "at least one manufacturing tool; and a computer coupled to said at least one manufacturing tool and configured to: at least one of generate a computer model of an object using a design program and receive a computer model of an object generated using a design program; automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object, said planning program configured to recognize at least one of a subassembly and a part not selected by an operator; automatically update the planning program; automatically select the at least one manufacturing tool based on the planning program; and fabricate the object using the at least one manufacturing tool based on the planning program."

Teramoto et al. does not describe or suggest apparatus for facilitating manufacturing as recited in Claim 14. Specifically, Teramoto et al. does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Teramoto et al. describe inputting, by an input means, shape data of a work piece. Teramoto et al. further describe planning a method of machining the work piece using the shape data of the work piece and data stored in a database such as a process model, process type, a list of tools of normal use, a list of combination of holders of normal use, and a list of machines of normal use. Accordingly, Teramoto et al. does not describe or suggest a computer configured to automatically input as recited in Claim 14. For the reasons set forth above, Claim 14 is submitted to be patentable over Teramoto et al.

Claim 15 recites a computer for facilitating manufacturing, the computer configured to "at least one of generate and receive a computer model of an object generated using a design program; and automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object."

Teramoto et al. does not describe or suggest a computer for facilitating manufacturing as recited in Claim 15. Specifically, Teramoto et al. does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied

to fabricate the object. Rather, Teramoto et al. describe inputting, by an input means, shape data of a work piece. Teramoto et al. further describe planning a method of machining the work piece using the shape data of the work piece and data stored in a database such as a process model, process type, a list of tools of normal use, a list of combination of holders of normal use, and a list of machines of normal use. Accordingly, Teramoto et al. does not describe or suggest a computer configured to automatically input as recited in Claim 15. For the reasons set forth above, Claim 15 is submitted to be patentable over Teramoto et al.

Claims 16-20 depend, directly or indirectly, from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitations of Claim 15, Applicant submits that Claims 16-20 likewise are patentable over Teramoto et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-20 as being anticipated by Teramoto et al. be withdrawn.

The rejection of Claims1-20 under 35 U.S.C. § 102(e) as being anticipated by Nakamura et al. (U.S. Patent Application Publication No. 2003/0033048) is respectfully traversed.

Nakamura et al. describe automatic programming apparatuses that are designed to enable an input of product shape data and workpiece shape data, a selection of a tool to be used and machining conditions (paragraph 5). Moreover, some of the automatic programming apparatuses are constructed as so-called CAD/CAM systems in which the product shape data and workpiece shape data are automatically extracted from design data (CAD data) created by CAD (Computer aided design) (paragraph 5). A product shape data storing section (11) is a functional section for storing three-dimensional product shape data input from an input device (31), and likewise, a workpiece shape data storing section (12) is a functional section for storing three-dimensional workpiece shape data input from the input device (paragraph 37). Based on the three-dimensional product shape data stored in the product shape data storing section and the three-dimensional workpiece shape data stored in the workpiece shape data storing section, a machining element data

generating section (13) generates machining element data including configuration data concerning configuration features of the workpiece as well as configuration features of each machining portion of the product and process data concerning a kind of machining to be applied to each machining portion (paragraph 38).

Claim 1 recites a method for facilitating manufacturing, the method comprising "generating a computer model of an object using a design program; automatically extracting at least a portion of the computer model from the design program and automatically inputting the extracted portion into a planning program configured to generate instructions for fabricating the object; and fabricating the object using the planning program."

Nakamura et al. does not describe or suggest a method for facilitating manufacturing as recited in Claim 1. Specifically, Nakamura et al. do not describe or suggest automatically inputting the extracted portion into a planning program configured to generate instructions for fabricating the object. Rather, Nakamura et al. describe automatically extracting product shape data and workpiece shape data from CAD data. Nakamura et al. also describe inputting, from an input device, three-dimensional product shape data, inputting, from the input device, three-dimensional workpiece shape data, and generating machining element data from the three-dimensional product shape data and the three-dimensional workpiece shape data. Accordingly, Nakamura et al. does not describe or suggest automatically inputting as recited in Claim 1. For the reasons set forth above, Claim 1 is submitted to be patentable over Nakamura et al.

Claims 2-6 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-6 are considered in combination with the recitations of Claim 1, Applicant submits that Claims 2-6 likewise are patentable over Nakamura et al.

Claim 7 recites a method for facilitating manufacturing, the method comprising "generating a computer model of an object using a design program; automatically inputting at least a portion of the computer model into a planning program configured to generate instructions for fabricating the object, said planning program configured to recognize at least one of a subassembly and a part not selected

by an operator; automatically update the planning program; automatically selecting at least one tool based on the planning program; and fabricating the object using the planning program."

Nakamura et al. does not describe or suggest a method for facilitating manufacturing as recited in Claim 7. Specifically, Nakamura et al. do not describe or suggest automatically inputting at least a portion of the computer model into a planning program configured to generate instructions for fabricating the object. Rather, Nakamura et al. describe automatically extracting product shape data and workpiece shape data from CAD data. Nakamura et al. also describe inputting, from an input device, three-dimensional product shape data, inputting, from the input device, three-dimensional workpiece shape data, and generating machining element data from the three-dimensional product shape data and the three-dimensional workpiece shape data. Accordingly, Nakamura et al. does not describe or suggest automatically inputting as recited in Claim 7. For the reasons set forth above, Claim 7 is submitted to be patentable over Nakamura et al.

Claim 8 recites apparatus for facilitating manufacturing, the apparatus comprising "at least one manufacturing tool; and a computer coupled to said manufacturing tool and configured to: generate a computer model of an object using a design program; automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object; and fabricate the object using the manufacturing tool based on the planning program."

Nakamura et al. does not describe or suggest apparatus for facilitating manufacturing as recited in Claim 8. Specifically, Nakamura et al. does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Nakamura et al. describe automatically extracting product shape data and workpiece shape data from CAD data. Nakamura et al. also describe inputting, from an input device, three-dimensional product shape data, inputting, from the input device, three-dimensional workpiece shape data, and generating machining element data from the three-dimensional product shape data and the three-dimensional workpiece shape data. Accordingly, Nakamura et al. does not describe or suggest a computer configured to automatically input as recited in Claim

8. For the reasons set forth above, Claim 8 is submitted to be patentable over Nakamura et al.

Claims 9-13 depend, directly or indirectly, from independent Claim 8. When the recitations of Claims 9-13 are considered in combination with the recitations of Claim 8, Applicant submits that Claims 9-13 likewise are patentable over Nakamura et al.

Claim 14 recites apparatus for facilitating manufacturing, the apparatus comprising "at least one manufacturing tool; and a computer coupled to said at least one manufacturing tool and configured to: at least one of generate a computer model of an object using a design program and receive a computer model of an object generated using a design program; automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object, said planning program configured to recognize at least one of a subassembly and a part not selected by an operator; automatically update the planning program; automatically select the at least one manufacturing tool based on the planning program; and fabricate the object using the at least one manufacturing tool based on the planning program."

Nakamura et al. does not describe or suggest apparatus for facilitating manufacturing as recited in Claim 14. Specifically, Nakamura et al. does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Nakamura et al. describe automatically extracting product shape data and workpiece shape data from CAD data. Nakamura et al. also describe inputting, from an input device, three-dimensional product shape data, inputting, from the input device, three-dimensional workpiece shape data, and generating machining element data from the three-dimensional product shape data and the three-dimensional workpiece shape data. Accordingly, Nakamura et al. does not describe or suggest a computer configured to automatically input as recited in Claim 14. For the reasons set forth above, Claim 14 is submitted to be patentable over Nakamura et al.

Claim 15 recites a computer for facilitating manufacturing, the computer configured to "at least one of generate and receive a computer model of an object generated using a design program; and automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object."

Nakamura et al. does not describe or suggest a computer for facilitating manufacturing as recited in Claim 15. Specifically, Nakamura et al. does not describe or suggest a computer configured to automatically input at least a portion of the computer model into a planning program configured to generate instructions applied to fabricate the object. Rather, Nakamura et al. describe automatically extracting product shape data and workpiece shape data from CAD data. Nakamura et al. also describe inputting, from an input device, three-dimensional product shape data, inputting, from the input device, three-dimensional workpiece shape data, and generating machining element data from the three-dimensional product shape data and the three-dimensional workpiece shape data. Accordingly, Nakamura et al. does not describe or suggest a computer configured to automatically input as recited in Claim 15. For the reasons set forth above, Claim 15 is submitted to be patentable over Nakamura et al.

Claims 16-20 depend, directly or indirectly, from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitations of Claim 15, Applicant submits that Claims 16-20 likewise are patentable over Nakamura et al.

For at least the reasons set forth above, Applicant respectfully requests that the Section 102 rejection of Claims 1-20 as being anticipated by Nakamura et al. be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

Robert B. Reeser III
Registration No. 45,548
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070

IN THE DRAWINGS

Applicant respectfully requests approval of the following drawing changes. A new Figure 1 has been added to show an embodiment of a tool, an apparatus, a manufacturing tool, a computer, and a computer coupled to a manufacturing tool. Old Figure 1 has been amended to re-label Figure 1 as Figure 2. Old Figure 2 has been amended to re-label Figure 2 as Figure 3. Old Figure 3 has been amended to re-label Figure 3 as Figure 4. Old Figure 4 has been amended to re-label Figure 4 as Figure 5. Old Figure 5 has been amended to re-label Figure 5 as Figure 6. Old Figure 6 has been amended to re-label Figure 6 as Figure 7. Old Figure 7 has been amended to re-label Figure 7 as Figure 8. Applicant submits, in anticipation of approval of the drawings changes, a replacement sheet for newly added Figure 1 and replacement sheets for old Figures 1-7. Also submitted herewith are annotated old Figures 1-7 on which the requested changes are reflected in red ink. No new matter has been added.

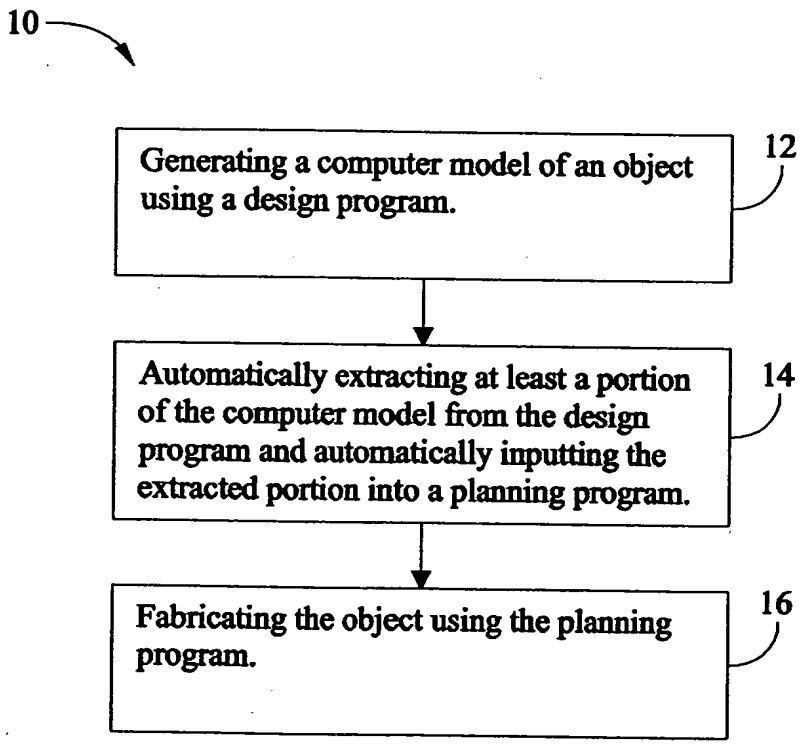


FIG. 1 2

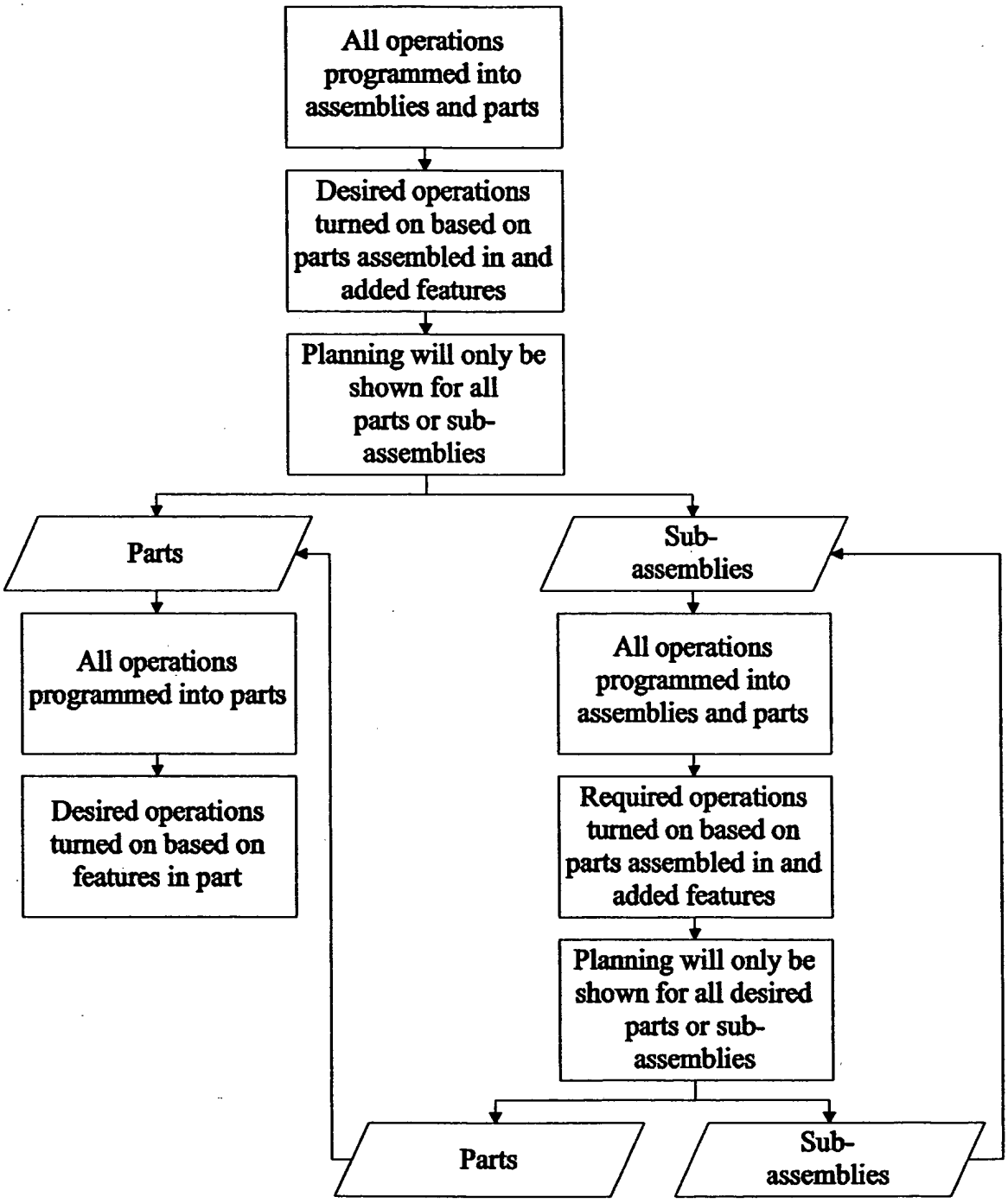

All operations programmed into assemblies and parts
Desired operations turned on based on parts assembled in and added features
Planning will only be shown for all parts or sub-assemblies
Parts
Sub-assemblies
All operations programmed into parts
Desired operations turned on based on features in part
All operations programmed into assemblies and parts
Required operations turned on based on parts assembled in and added features
Planning will only be shown for all desired parts or sub-assemblies
Parts
Sub-assemblies

FIG. 2 3

FIG. 3 4

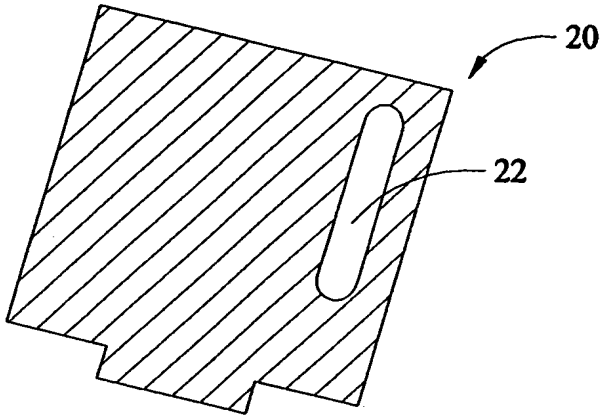


FIG. 4 5

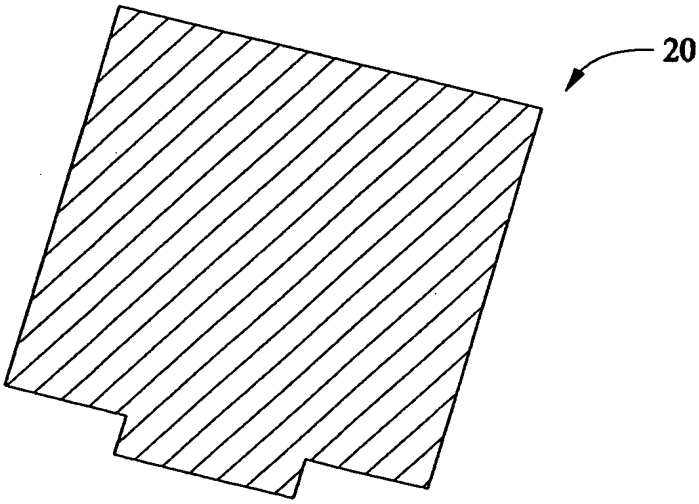


FIG. 5 6

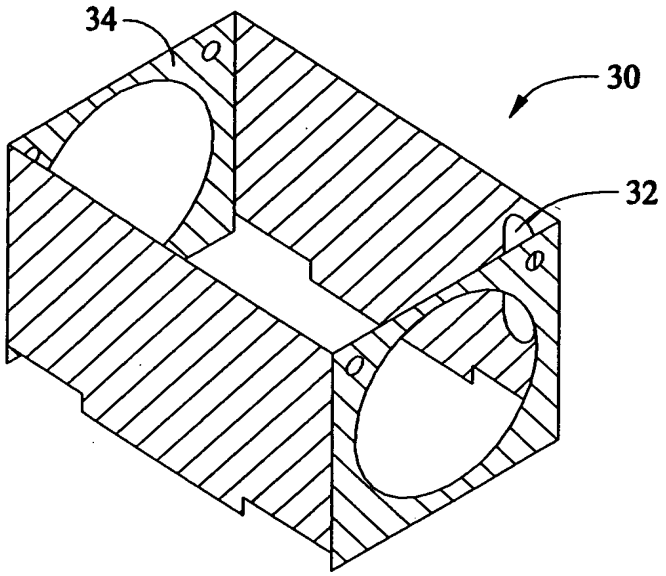
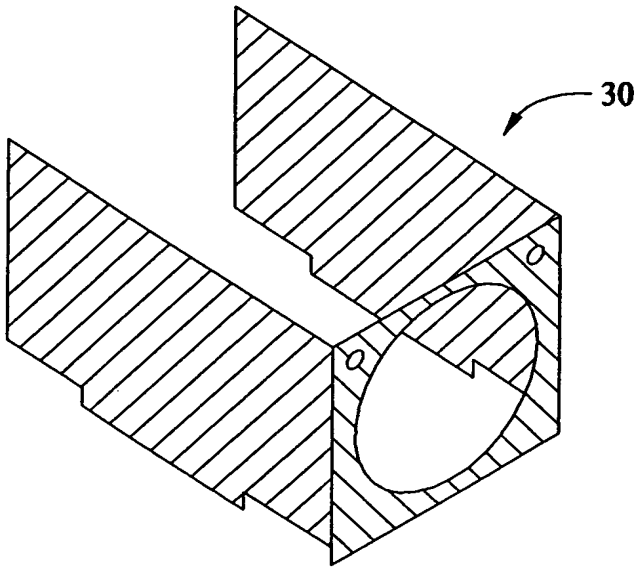


FIG. 6 7



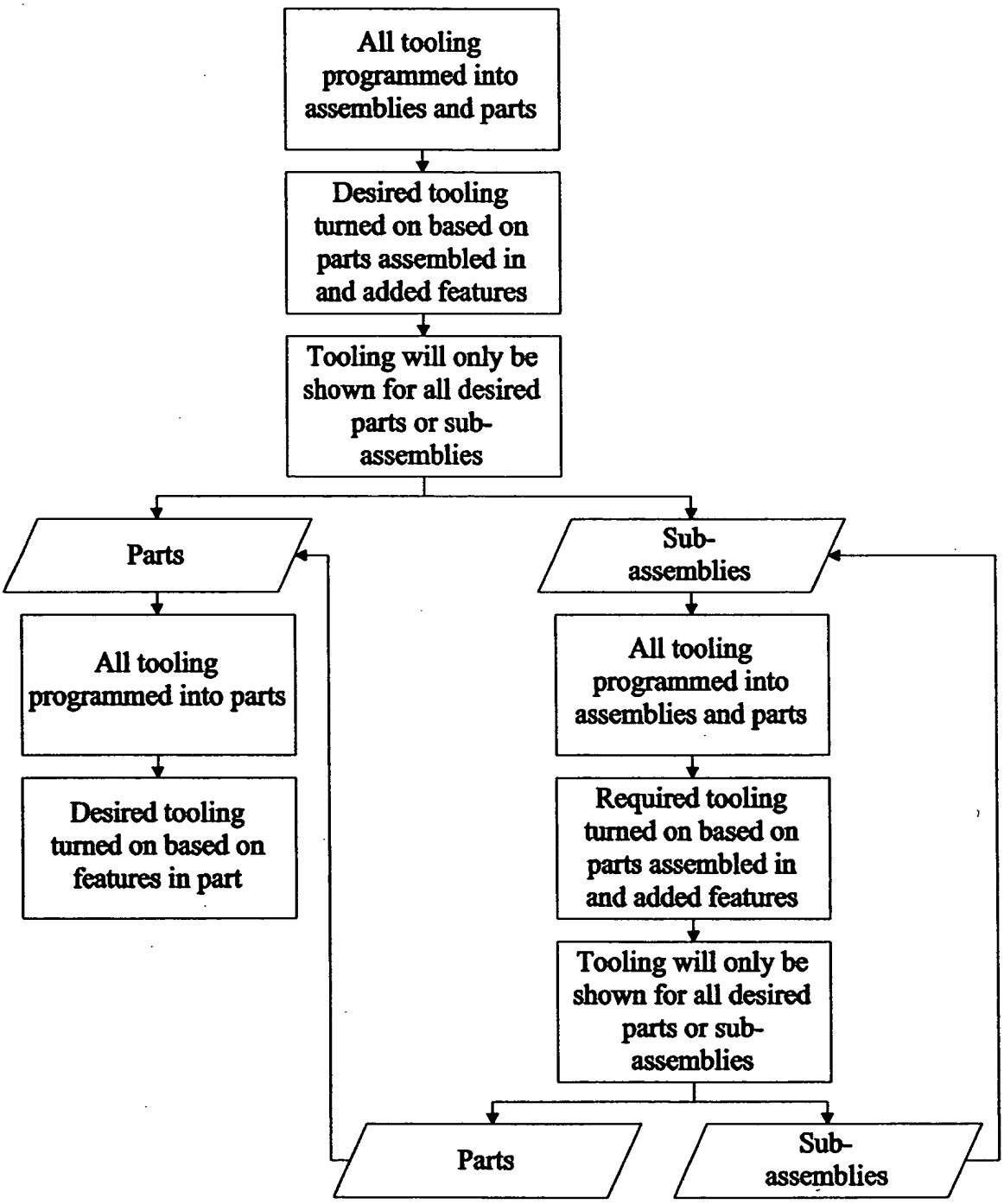

All tooling programmed into assemblies and parts
Desired tooling turned on based on parts assembled in and added features
Tooling will only be shown for all desired parts or sub-assemblies
Parts
Sub-assemblies
All tooling programmed into parts
Desired tooling turned on based on features in part
All tooling programmed into assemblies and parts
Required tooling turned on based on parts assembled in and added features
Tooling will only be shown for all desired parts or sub-assemblies
Parts
Sub-assemblies

FIG. 7 8